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PROBLEM SOLVING & DECISION MAKING IN THE
WORKPLACE:
LACK OF ADVANCED TECHNOLOGY IN HEALTHCARE
SETTING

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Introduction

Health care is the most sensitive organisation that is directly connected to the population in every way. From mental to physical health care everyone is dependent on the healthcare industry. The healthcare industry also faces many challenges in its organisation. One of the most challenging aspects is lack of advanced technology. This is an era where new technologies are taking the place of others day by day. Technology plays a vital role in healthcare organisation and has a great impact on daily life. In the following project, it will be discussed about the challenges faced due to lack of advanced technologies, their impact, and their solution to have a better healthcare organisation. In order to make development in an organisation it is very important to justify the problem it is facing and then solutions are to be implemented to make it successful. It is vastly necessary for a health care organisation to have advanced technology equipment so that they can serve the patients with the desired treatment.

Overview of the problems in healthcare

A health care organisation faces several challenges throughout, as it is the most sensitive industry in the world. It deals with the health of the largest number of the population every day (Tsap, and Mandra, 2017). To maintain the good health of the population it has to be perfect in all matters. But in recent times the healthcare organisation is also facing many problems due to lack of advanced technology like- health care rising cost, payment process, shortage of staff, and data saving. Lack of technology is one of the most serious issues. Due to a lack of technology healthcare organisations could not give the proper services required by the patients. With proper technology equipment, it becomes very easy for the doctors and staff to provide the patients with desired treatments in a less period (Aceto *et al.*, 2018). Technology advancement in Medical saves lots of lives per year. There are other problems faced by the healthcare organisation like cybersecurity, price transparency, telehealth, and all.

The equipment which needs advancement in healthcare is- electronic health record, remote monitoring tools, sensor and wearable tools, wireless communication and disease testing tools. Making these tools advanced in technology will help the healthcare industry to work more

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productively in serving patients. Healthcare technology advancement is important for improving and transforming services.

The current issue and its scope in the healthcare setting

As mentioned above the healthcare industry lacks advanced technology for the better productivity of services. Due to lack of advanced technology, the health care organisation is facing problems like-

- Poor access to treatment- Lack of latest technology equipment doctors and staff could not treat the patient in the right way. Medical staff could not give the proper medical support in emergencies because of it the patients have to suffer and in some care cases; some have to lose their life.
- Increasing cost of healthcare and issues in payment process- Due to the lack of the latest technology healthcare equipment, large numbers of medical supports are needed to cope up with an emergency, which causes an increase in the pricing of the bill paid by the patients. As there is no proper technological advancement in healthcare, data of the patients and staff could be arranged appropriately, during payment people have to face problems, sometimes wrong payments are also done due to lack of information saved. Through a good payment process billing of customers and salaries of staff can be transferred easily.
- Staff turnover- In medical emergencies nurses and staff have to give support in places of equipment which creates pressure on them. Because of serious pressure on the staff sometimes they make mistakes and its results in critical conditions of a patient's life. In order to avoid these pressures and mistakes, staff and nurses chose to leave the organisation otherwise the patient party will make them guilty. Therefore advanced technology equipment plays a vital role in saving one's life.
- Information and integrated health services- lack of collection of patient data results in lack of service in providing treatment. If a patient's details and data are collected properly it will be easy for the healthcare organisation to give proper treatment according to what it needs.

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Besides this, poor infrastructure and lack of competence and patient care have also been a problem in the field. Due to lack of technology the infrastructure of healthcare organisations (Laurenza, et al., 2018). Like a healthcare organisation a certain unit may require a certain temperature, but lack of technology results in improper infrastructure. Having advanced technology in healthcare organisations leads to competence between each other. Organisations that have proper technology will develop higher and will have the highest outcomes. Lack of technology results in a lack of patient care. As the whole process of treatment depends on the equipment a healthcare organisation has. Organisations that do not have proper technological equipment could not give proper treatment to their patients. These are the issues healthcare organisations face due to the lack of advanced technology.

Impact of the problem on stakeholders

A stakeholder is a person who can affect or can be affected by the changes in an organisation. Stakeholders of an organisation are the employees, employers, investors, and suppliers (Agri, *et al.*, 2018). So the factor which affects the healthcare organisation also affects its employees, employers, patients, suppliers, and investors. Most of the problems are faced by the stakeholders of an organisation due to a lack of technology. Stakeholders are the most crucial part of an organisation, because of the organisation on market. Without stakeholders, there will be no organisation. So it is very important to take care of the stakeholders. But due to lack of advanced technology stakeholder have to face many issues.

Patients do not get the proper way of treatment as proper equipment is not theirs (Benítez et al., 2020). They have to suffer from medical emergencies and have to get support from the staff which are enough to recover the emergencies (Fairburn, and Patel, 2017). Mostly the patients and their families have to suffer due to a lack of proper technological equipment. Therefore to support patients, medical emergencies and health organisations should have the proper required equipment. Besides this, staff and nurses who cannot support the medical emergencies due to lack of equipment chose to turnover as they have to be responsible in front of the patient party for their loss. Without proper equipment and support nurses and staff will not be able to give desired treatment to the patients.

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Furthermore, investors who have invested in the healthcare organisation will have to face financial problems as they will not get enough profit. Investors face problems in affording to buy new advanced technology equipment as they are highly expensive. In accordance with that, the reason can be stated as staff and patients will leave the hospital and other new staff and patients would not like to be there as there is no proper advanced technology equipment for the treatment and service. Therefore, indirectly the investors will also have to deal with issues in lack of technological advancement.

Therefore due to the lack of advanced technology in a healthcare organisation, stakeholders like patients, staff and nurses, investors, everyone gets affected due to it. As everyone is interconnected with the healthcare organisation, it serves a large number of patients in a less period. New technology equipment has a lot of benefits and also helps to bind the Stakeholders with the organisation.

Analysis of the decision-making process including the relevant legislation

Making decisions is a core element for the effective management of any organisation. Problem-solving is accompanied by effective decision making and thus every organisation needs to ensure that the flow of communication is framed in a manner that quick and relevant decisions are made which benefits the stakeholders. Decision-making is a five-step process and usually begins with identifying the problem (Marchau *et al.*, 2019).

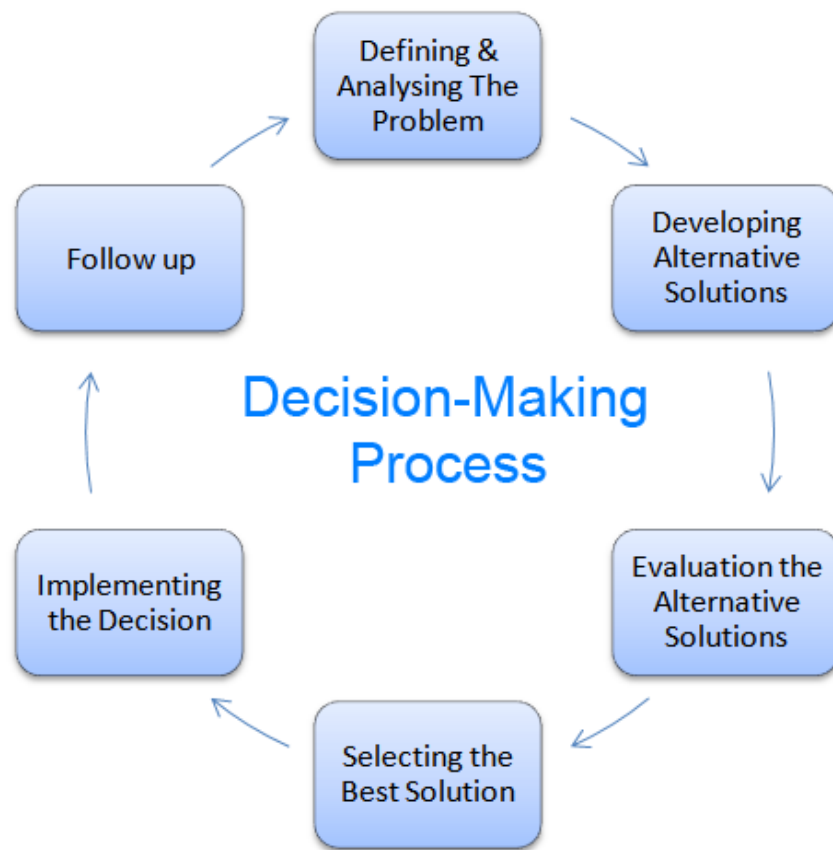


Figure 1: Decision Making Process

(Source: Abubakar *et al.*, 2019)

Once the problem is identified, relevant information about the problem is gathered and alternative solutions are looked for. The evidence about the alternatives needs to be gathered as well so that one of the best alternatives is chosen. Implementation of the chosen solution is not the last stage, evaluation of the measures taken are also needed to be done (Abubakar *et al.*, 2019).

Similarly, in healthcare institutions, there are various situations where problems are faced and the need to make effective decisions arise. Problems in healthcare institutions are dealt with keeping the focus on benefitting the key stakeholder, the patients. There are clinical as well as non-clinical problems in healthcare organisations and thus the type of problem needs to be understood first. Since the problem being discussed in the report is a non-clinical one, the management is solely responsible, and participation of patients is not needed. However, as per the legislation, if the impact of the decision being taken is on the patients, the benefits of the

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changes brought around need to be communicated to the patients as well. Healthcare institutions have various channels of authorisation and thus the decision-making process is directly dependent on the authoritative structure (Légaré *et al.*, 2018). The basic or main framework of decision making involves identification of the situations or challenges where decision making is needed and communicating it to the relevant authorities, referring to the existing policies and instruction of the institution, understand the decision-making capacity and intentions, and then making the right decision on an analysis of the various options available in the best interest of the organisation. The decision needs to be communicated to the employees and workforce for effective implementation and outcome. When making decisions related to clinical or medical issues, the consent of the patients and their participation in the decision-making process is necessary, however, the management system and administration usually make major non-clinical decisions. Flowcharts, strategy maps and idea maps are some of the techniques which are relevant in decision making and problem solving.

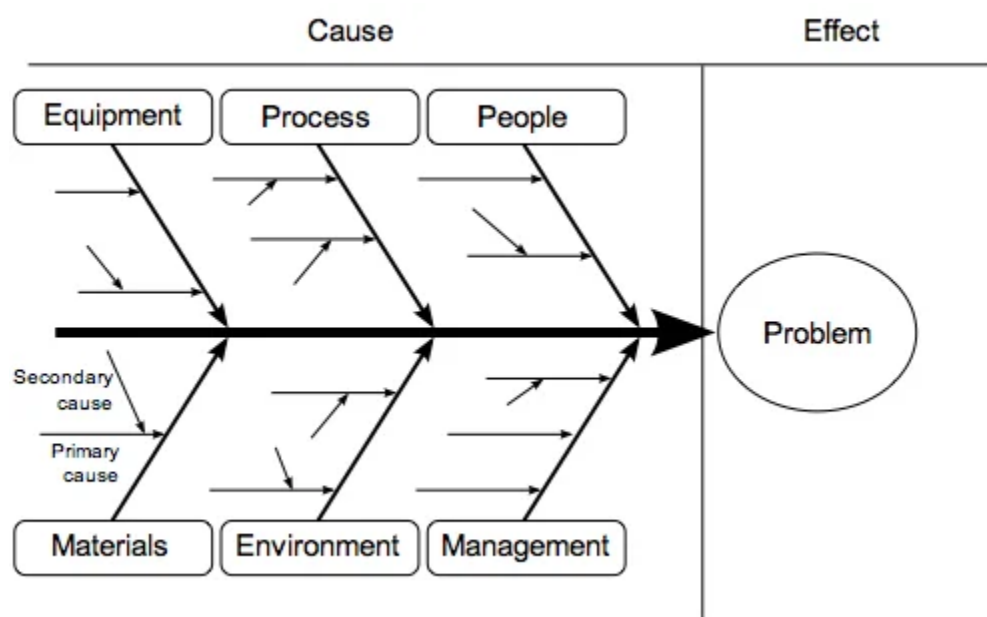


Figure 2: Fishbone problem solving technique.

(Source: Istikomah et al., 2017)

The fishbone problem solving technique is also relevant as it understands the various factors related to the problem and analyses the cause-and-effect relationship.

Alternative solutions

Identification of alternative solutions is an important part of any decision-making process. It helps in understanding the various options that are available and provides a wide range of solutions to choose from.

In reference to the problem of lack of advanced technology in healthcare institutions, the following alternatives have been identified:

- **Artificial intelligence and robotics:** The use of artificial intelligence in healthcare systems is an emerging concept and has already been implemented in various organisations. The use of AI increases operational efficiency and accuracy at work (Panesar, 2019). Effective data management is one of the major needs in healthcare systems and AI is a core solution to this. The use of robot systems reduces the burden of work from the healthcare workers and ensures efficiency at work. The robots are used for basic jobs at the institutions while the workers can focus on complex jobs and patient care.
- **Cloud computing:** Cloud computing is an emerging technology and has saved various organisations of its large costs. Cloud computing enables organisations to store large size as well as large amounts of data with the help of the internet and provides easy access to it without any physical barriers and restrictions (Ali *et al.*, 2018). Cloud computing is an effective solution as it ensures that the flow of communication in healthcare institutions is fluent which in turn reduces confusion and enhances performance.
- **Healthcare trackers and sensors:** Investments in healthcare trackers and sensors are also a great solution for the prospects of growing healthcare institutions. Health Trackers are beneficial as it helps in effective analysis of the health conditions of the patients and saves time of actually going through several check-ups every time. In addition to this, the use of sensors is also an innovative measure as it enables the healthcare workers to be aware of the health conditions of the patients and reduces the risk of delay in action when needed.

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- Change management: in addition to higher investments, effective change management through training and development of the workforce is also necessary. Ensuring the development of the efficiency of employees ensures higher productivity and effective use of the existing technologies along with the new ones.

Decision making and evaluation

As discussed earlier, the decision-making process involves various steps from identification of the problem to finding alternative solutions available. Once the alternative solutions have been identified the next step of the decision-making process is to choose the best alternative available. In accordance with the alternative's solutions making use of AI and robotics is most suitable. The field of medicine and healthcare is growing and evolving every day with the help of digital technology. Technological advancements have enabled practitioners to ensure an effective relationship between the work process and the patient. Furthermore, it has improved the healthcare facilities and has enhanced the services rendered on the whole.

The use of artificial intelligence and robots is an evolving concept and has various benefits for efficiency in operations. The AI system can manage the data and record it effectively and further enhances the treatment plan with effective layouts and methodology. The use of smart devices in healthcare has enabled better analytical data configuration and diagnosis of the human body (Davenport, and Kalakota, 2019) In addition to this, AI makes use of high-tech application and software which configures the large data available and extracts it for actionable measures. The clinical, as well as non-clinical problems are met with the help of artificial intelligence and therefore provide a comprehensive solution to the healthcare institutions. AI technology enables tracking of accurate data and effective reading of radiology thereby ensures efficiency at medical operations. Furthermore, the use of devices with AI software in other streams such as payment and employee management is also a great benefit. Robots are also a branch of AI and enable the support of operations at work. In scenarios of a global pandemic where the threat of the virus to spread as existing, the use of robots has enhanced medical help and has helped the healthcare institutions to sustain their standards.

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Once the decision is made, it is evaluated and tested with the measurement of various pros and cons which are related to the chosen solutions. Identification of the further challenges in the implementation of the solution ensures that measures to reduce the risks or challenges are prepared and the process of implementation is carried out effectively. One of the major disadvantages of using AI is human assistance (Kluge, 2020). The efficiency at work and accuracy or time-saving aspects are valuable to the institutions, however, the fact that Ai and robots need human assistance and management is unavoidable.

Implementation and communication to stakeholders

Implementation of the decision made is equally necessary for effective use of the investment made. Healthcare institutions need to ensure that their organisational structure facilitates effective implementation of the technological advancements incorporated.

Technological advancements and efficiency in operations have become a need for every organisation including medical healthcare units. However, effective implementation is dependent on various factors such as identification of the needs, choosing the right technology, communication of the change, and effective change management. Technological developments and advancements are not enough for growth in operational performance; change management is equally important (Lahat, and Sher-Hadar, 2019). A healthcare institution needs to make sure that the workforce of the organisation is moving along with the development or change brought around. Effective growth and development of the employees are necessary for effective implementation and use of the AI to the best potential. Since technological advancements is a necessary change that healthcare institutions need to make, measures to provide effective development of the employees also need to be taken. Effective training needs to be provided and technical knowledge needs to be shared to ensure that the workers are able to make use of the technology incorporated.

Participation of these stakeholders is necessary to ensure that their needs are met effectively. Effective flow of knowledge about the changes being brought or implementations to be made

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needs to be ensured. The investors need to be connected within a meeting and communicated about the investments to be made along with the benefit of the organisation. A plan for the investment, proposal, and cost-effective analysis is drawn to ensure that the interests of the investors are served in the right way (Bakir, 2017). Communication to the employees is necessary for effective implementation as discussed earlier. Furthermore, effective communication with the patients is also beneficial as well as necessary to ensure that they know the extra efforts made by the organisation in providing them the best services. Communication with the patients also ensures transparency and thus reduces the payment and pricing problems.

Monitoring and review techniques

The last and the most important step of effective decision making and problem-solving is monitoring the decision made. The health care institutions need to ensure that the change brought around is effectively reviewed and analysed. Monitoring and reviewing techniques ensure that the process of implementation is done properly without any divergence from the expected results. Furthermore, it also ensures that the technological advancement incorporated moves smoothly without any hindrances. Some of the useful monitoring and reviewing techniques are supervision, observation, feedback, surveys, and KPIs, and operations outputs (Sony *et al.*, 2019).

Setting benchmarks or key performance indicators ensure that the results or outcome are measured effectively. In addition to this, testing and proper supervision of the technical faults or risks which are liable to happen is to be done to ensure operational efficiency. The help of professionals in problem shooting and ensuring effective use of the technology is also beneficial. In addition to this, supervision from the middle and top level management is also necessary to ensure that the technologies are used to their fullest and in the right way.

Employees of healthcare workers are the main users of the technologies; therefore feedback from the employees is an effective technique to ensure effective monitoring. Reviews gained from the employees help in identification of the challenges faced while using the technological aids and therefore effective measures to mitigate those challenges can be taken (Sahlin, and Angelis, 2019).

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Lastly, feedback from the customers or patients is also necessary and an important means of the reviewing process. Enhanced experience of the patients is the true indicator of effective problem-solving and decision-making. The patients are the revenue generators in healthcare institutions and also the main reason behind implementation of advanced technologies is improving the patient-care and thus feedback or surveys from patients becomes mandatory.

Conclusion

As it has been seen in the above-mentioned points, the large number of the healthcare organisation faces problems due to lack of advanced technology. Advanced technology is highly required by every health organisation to support and provide the desired treatment of patients. Lack of advanced technologies leads to loss of patients, loss of nurses and staff and also leads to Increase in medical emergencies. An organisation should provide the required equipment and tools to the staff and nurses so that they can give their best in patient care and their treatment. To provide a required amount of advanced tools the organisation has to analyse and get feedback from the staff. A large number of the population is dependent on the health care organisation, it can be physically or mentally, therefore it is very important for healthcare to stay up to date with all the requirements and needs. Having the right amount of technological equipment reduces work pressure and increases productivity and effectiveness of work. An organisation which is always up to date with their equipment and works will have a large number of patients, as people always choose to go to that healthcare which has maximum facilities. No person compromises with their health.

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